

GENERAL MOTORS (Cont.)

CHEVROLET

4 CYLINDER MODELS (EXC. CHEVETTE)

Disconnect battery and raise vehicle. Drain crankcase and remove rear section of frame crossmember. Disconnect exhaust pipe at manifold and loosen bracket. Remove flywheel inspection cover and disconnect steering linkage at steering gear and idler arm support. Remove oil pan bolts and remove pan.

4 CYLINDER MODELS (CHEVETTE)

1) Remove heater housing assembly from front of dash and rest housing on top of engine. Remove motor mount nuts. Pull back motor mount wire restraints. Remove radiator upper support. On vehicles with air conditioning, remove upper fan shroud. Disconnect fuel line from charcoal canister. Raise vehicle and drain crankcase oil. Remove flywheel splash shield.

2) On vehicles with manual transmission, remove rack and pinion mounting bolts and move rack and pinion aside. Loosen rear catalytic converter-to-exhaust pipe clamp bolts. Using suitable adapter (J-26436), raise engine. Remove oil pan bolts and lower pan about 1". Rotate front of pan to right and rear to left. Tilt front of pan down 45° and remove pan from vehicle.

6 CYLINDER MODELS

1) Disconnect battery and remove radiator upper mounting panel. Place a piece of heavy cardboard between fan and radiator and raise vehicle. Drain engine oil. On vehicles with manual transmission, remove starter. Remove either flywheel underpan or converter housing underpan and splash shield.

2) Remove through bolts from engine front mounts and, using a jacking device, raise engine about 3". Install through bolts in engine mount and tighten nuts just enough to prevent bolts from slipping out. Lower engine until through bolts rest on frame mounted portion of engine mounts. Remove jack, then remove oil pan.

V8 MODELS W/305" & 350" (VIN U, L)

NOTE — Oil pan removal will vary on same size engines depending upon body style.

Removal procedures are as follows:

- Malibu, El Camino — Remove dipstick and tube.
- Impala, Caprice — If equipped with air conditioning, remove vacuum reservoir.
- Nova, Camaro — Remove distributor cap and move aside. If equipped with heavy duty radiator, remove one piece shroud.
- Corvette — Disconnect idler arm and lower steering linkage. Remove flywheel splash shield.

ALL V8 MODELS — 1) Disconnect negative battery cable and remove air cleaner. Remove upper half of fan shroud (except Nova, Camaro with heavy duty radiator). Raise vehicle and drain crankcase. Remove exhaust crossover pipe at manifold and converter. Remove torque converter cover.

NOTE — Vehicles with manual transmissions, remove starter before attempting flywheel cover removal.

2) Remove engine mount through bolt and oil pan bolts. Raise engine and reinstall through bolts, remove oil pan.

NOTE — It may be necessary to rotate crankshaft to clear oil pan when removing.

CHEVROLET	
TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Oil Pan Bolts	
4-Cyl.(Exc. Chevette)	
Front	4
Side	7
4-Cyl. Chevette	5
6-Cyl.	
Front	4
Side	7
V8	
5/16"	22
1/4"	7

OLDSMOBILE

4 CYLINDER MODELS

1) Raise vehicle and drain crankcase oil. Support front of engine to remove weight from front engine mounts. Remove front frame crossmember and both front crossmember braces. Disconnect steering idler arm at frame side rail. On vehicles with air conditioning, disconnect idler arm at relay rod. Mark relationship of steering linkage pitman arm to pitman shaft and remove arm.

2) Remove flywheel cover or converter underpan. Remove oil pan bolts, tap oil pan and remove from vehicle.

V6 MODELS (Starfire & Cutlass)

Raise vehicle and drain crankcase. Remove crossover pipe and flywheel cover. Remove oil pan.

V6 MODELS (Exc. Starfire & Cutlass)

Disconnect battery and remove fan shroud to radiator tie bar screws. Remove air cleaner and disconnect accelerator and downshift linkage at intake manifold. Raise vehicle and drain crankcase. Remove flywheel cover and shift linkage, position out of way. Disconnect exhaust crossover pipe and front engine mount bolts. Disconnect idler arm at frame and swing down. Raise engine and remove oil pan bolts and oil pan.

V8 MODELS W/305" & 350" (VIN U, H, L)

Disconnect battery and remove air cleaner. Remove upper portion of shroud.

- Omega with H.D. cooling — remove one piece shroud.
- 88 with A/C remove vacuum reservoir.
- Cutlass — remove dipstick.
- Omega — remove distributor cap, move aside.

Oil Pan Removal

GENERAL MOTORS (Cont.)

OLDSMOBILE (Cont.)

Raise car and drain crankcase. Remove exhaust crossover pipe and engine through bolts. Remove converter or flywheel cover. Remove oil pan bolts and lower pan. **DO NOT REMOVE AT THIS TIME.** Raise engine and install mount through bolts. Remove oil pan.

350" DIESEL

1) Remove drive and vacuum pump. Disconnect battery and remove rear battery. Remove fan shroud leaving fan in shroud.

2) Raise vehicle and drain crankcase. Remove flywheel cover and oil cooler lines. Disconnect exhaust system and remove starter.

3) Remove through bolts from mounts and remove tunnel stiffener strut. Remove transmission dipstick and raise engine. Remove oil pan bolts and oil pan.

V8 MODELS W/260", 350" & 403" (VIN F, K, R) (Exc. **Toronado**)

Remove distributor cap and align rotor in No.1 firing position. Disconnect battery and remove dipstick. Remove upper

radiator support and shroud screws. Raise vehicle and drain crankcase. Remove flywheel cover and disconnect exhaust and crossover pipes. Remove starter and engine mounts. Remove pan attaching bolts and oil pan.

Toronado — Engine must be removed before oil pan can be removed. See appropriate article in *ENGINE REMOVAL* Section.

OLDSMOBILE

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
4 Cyl. Models	
Oil Pan Bolts	
Front	3
Rear	5
V6 Models	14
V8 Models	
305" & 350" (VIN U, H, L)	7
All others	10

PONTIAC

4 CYLINDER MODELS W/151"

1) On Phoenix models, disconnect battery and remove fan. Raise vehicle and drain crankcase. Disconnect exhaust system and remove starter. Remove flywheel inspection cover. Raise engine and remove mount bolts. Remove oil pan bolts and raise engine enough to allow oil pan removal.

2) On Sunbird models, disconnect battery and raise vehicle. Drain crankcase and disconnect exhaust system. Remove flywheel inspection cover and disconnect steering linkage at steering gear and idler arm support. Remove rear section of frame crossmember. Remove oil pan bolts and oil pan.

V6 MODELS (VIN A)

Raise vehicle and drain crankcase. Remove flywheel cover and exhaust system. Remove oil pan.

NOTE — Some vehicles may require removal of rear transmission mount and lifting at rear to allow pan removal.

V8 Models

305" & 350" (VIN L, U)

Raise vehicle and drain crankcase. Remove dipstick and tube. Remove exhaust crossover pipe. Remove converter housing under pan (if equipped). Remove starter brace and inboard bolt and swing starter aside. Remove oil pan bolts and pan.

350" & 403" (VIN R & K)

1) Align rotor to number one firing position. Disconnect battery cable and remove dipstick. Remove upper radiator support and fan shroud screws. Raise vehicle and drain crankcase. Remove flywheel cover.

2) Disconnect exhaust and crossover pipes. Remove starter and motor mounts from engine. Raise front of engine up as far as possible using suitable support tool (J-23515) and adaptor (J-23515-20) or (BT-6501). Remove oil pan bolts and pan.

305" (VIN X)

Disconnect battery and remove shroud screws. Remove air cleaner and disconnect accelerator linkage. Raise vehicle and drain crankcase. Disconnect exhaust system and remove flywheel inspection plate. Remove shift linkage and front engine mount bolts. Support right side of engine to prevent cocking to right when engine is raised. Pick up engine and remove oil pan bolts and oil pan.

301" & 400" (VIN Y, W, Z)

NOTE — The oil pan on 301" Y and W VIN codes have no inner baffle. 400" VIN code Z, have inner baffle when equipped with axle ratios 3.08 to 1, and above. All Firebird series 400" engines have inner baffles.

1) Disconnect battery and fan. Move compressor or brackets aside for clearance if necessary. Remove distributor cap and set aside. Raise vehicle and drain crankcase. Disconnect exhaust system and remove starter. Remove flywheel cover and rotate crankshaft until number one cylinder is at bottom dead center.

2) It may be necessary to loosen fuel pump to timing cover bolts to clear engine lifting adapter. Remove mount through bolts.

3) Remove oil pan bolts and raise engine until pan can be removed.